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COLLAR STIFFENING DEVICE AND METHOD OF USE

Inventor: Edward E. Forrest

Assignee:

Entity: Small

JENKINS, WILSON & TAYLOR, P.A.
Suite 1400, University Tower
3100 Tower Boulevard
Durham, North Carolina 27707
Telephone: 919-493-8000
Facsimile: 919-419-0383

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Cathi H. Turner
Cathi H. Turner

Description

COLLAR STIFFENING DEVICE AND METHOD OF USE

Technical Field

The subject matter disclosed herein relates generally to a collar stiffening device and method, and more particularly to providing an adhesive collar stiffening device that is easy to use and that provides sufficient stiffness and flexibility for use with the soft collar shirts made from machine knitted fabric.

Background Art

It is well known in the art that while it is desired to wear an open collar shirt of knitted fabric construction material at various times because of the comfortable nature of the material, the collars of these shirts tend to lay irregularly or tend to curl as a result of washing, drying, or exposure to high humidity environments. While these knit shirts may be laundered and ironed along with their dress-shirt counterparts for favorable results, the ends of these shirt collars tend to still result in curling through any length of wearing time. In the past, these collar appearance problems have been addressed through the use of collar stiffening devices of various shapes and functions and have resulted in haphazard usefulness.

For example, U.S. Patent No. 3,286,278 to O'Connor describes the insertion of plastic stays into cooperating pockets strategically located at the edges of a collar which bound the front neck opening of a shirt. The knitted collar disclosed in O'Connor has pockets with a wide dimension that is oversized with respect to the width of the plastic stay so that a user may insert the stay into the pocket to produce a stiffened collar. Likewise, U.S. Patent No. 3,909,850 to Scott discloses a collar stay disposed on the underside of the collar with a downwardly projecting end portion adjacent to the tip of the collar. Scott also discloses means on the shirt body to receive the end portion of the stay so that the collar tip is held against the shirt body. The disadvantage of prior patents such as O'Connor and Scott is that these stays cannot be used in open collared single layer knit shirts such as golf "polo" type shirts that are commonly worn.

In view of these shortcomings, some collar support devices were developed that incorporated the use of adhesive material that could be adhered to the underside of a shirt collar in order to stiffen the collar without the use of collar-stay pockets. U.S. Patent No. 2,510,030 to Carlisle discloses one such device. Carlisle discloses the use of a semi-rigid material that may be adhered to the underside of the collar. The collar support comprises a thin, flat and relatively rigid strip of flexible material, a thin layer of pressure sensitive and water soluble adhesive material covering one face of the strip, and a porous flexible backing removably engaged with the adhesive covered face of the rigid strip. U.S. Patent No. 6,089,422 to Gibson discloses a collar stiffening means comprising a base with two surfaces, an adhesive on one side of the base, and

a removably affixed cover that covers over the adhesive. The adhesive side of the base can be pressed upon the underside of a collar for stiffening of the collar and thus improving the appearance of the collar.

One substantial disadvantage of the prior art adhesive collar stays has been the extreme difficulty in removing the paper material that typically covers the adhesive that is attached to the support member. This paper material is necessary to cover the adhesive when the collar stay products are in production and in storage. In theory, the paper backing should be removed by the user exposing a fresh layer of adhesive material so that the pressure sensitive adhesive is then applied to the underside of a collar to removably affix the collar stay to the collar. In practice, however, the minimal clearance between the paper backing and the base support member makes the removal of the paper backing extremely difficult. If one has extremely sharp fingernails or uses some other sort of sharp instrument, such as a razor blade, the paper may be removed at least initially off the edge of the support structure, thereby allowing the edge of the paper to be gripped by the fingers and pulled back exposing the adhesive. However, most individuals are unable to remove the paper backing in quick order due to the inability to separate the paper backing from the adhesive and base support member.

Therefore, it would be advantageous to employ a collar stiffening device that would not only contain the requisite stiffening characteristics for straightening of a shirt collar but would also contain adequate clearance between the collar stay and the adhesive so that the required protective cover

layer could be easily and rapidly removed to expose the adhesive for attachment by the user.

Disclosure of the Invention

According to one embodiment, a collar stiffening device comprises a collar stay having a first surface and a second surface, a foam layer secured to the second surface of the collar stay, an adhesive disposed on at least a portion of the foam layer, and a flexible protective cover layer removably secured to the foam layer by the adhesive.

Accordingly to another embodiment, a combination of a shirt provided with a collar stiffening device is disclosed comprising a shirt comprising a body and a collar attached to the body wherein the collar has a front edge, an upper surface, and a lower surface. The combination also includes a collar stiffening device comprising a collar stay having a first surface and a second surface, a foam layer secured to the second surface of the collar stay, an adhesive disposed on at least a portion of the foam layer, and a flexible protective cover layer removably secured to the foam layer by the adhesive. The collar stiffening device is removably secured to the lower surface of the collar subsequent to removal of the protective cover layer to provide stiffening to the collar of the shirt.

A method is also provided for stiffening the collar of a shirt and comprises the steps of providing a shirt comprising a body and collar attached to the body wherein the collar has a front edge, an upper surface, and a lower surface, providing a collar stiffening device comprising a collar stay having a

first surface and a second surface, a foam layer secured to the second surface of the collar stay, an adhesive disposed on at least a portion of the foam layer, and a flexible protective cover layer removably secured to the foam layer by the adhesive. The method further discloses the steps of removing the flexible protective cover layer from the adhesive on the foam layer, aligning the collar stiffening device with the front edge of the collar lower surface, and securing the collar stiffening device to the collar lower surface.

It is therefore an object to provide an adhesive collar stiffening device and method that allows for not only the provision of a device of sufficient stiffness and flexibility for enabling a soft collar to look like a pressed collar, but also providing a stiffening device that is much easier to use than prior art collar stiffening devices.

An object having been stated hereinabove, and which is achieved in whole or in part by the subject matter disclosed herein, other objects will become evident as the description proceeds when taken in connection with the accompanying drawings as best described hereinbelow.

Brief Description of the Drawings

Figure 1 is a cross-sectional view of a prior art adhesive collar stiffening device;

Figure 2 is a cross-sectional view of a collar stiffening device provided in accordance with the subject matter disclosed herein;

Figure 3A is a top plan view showing the first surface of the collar stay of the collar stiffening device illustrated in Figure 2;

Figure 3B is a bottom plan view showing the flexible protective cover layer removably secured to the foam layer of the collar stiffening device illustrated in Figure 2;

Figures 4A – 4C are plan views of various geometric shapes in accordance with different embodiments of the collar stiffening device of the present invention;

Figures 5A and 5B are front views of a shirt with a collar employing the collar stiffening device of the present invention.

Detailed Description of the Invention

A prior art adhesive collar stiffening device is shown in Figure 1 and generally designated **10**. The collar support **10** comprises a thin flat relatively rigid base support member **12**, a thin layer of pressure sensitive and water soluble adhesive material **14** covering one face of the support member, and a porous flexible backing **16** removably engaged with the adhesive covered face of the support member. As discussed hereinabove, the minimal clearance between flexible backing **16** and support member **12** makes the removal of flexible backing **16** extremely problematic and results in difficulty in use of prior art collar support **10** to ordinary users.

A preferred embodiment of the collar stiffening device of the present invention, generally designated **20**, is shown in Figures 2, 3A and 3B and is designed to provide the long sought solution of relative ease of use of the collar stiffening device for stiffening shirt collars. Collar stiffening device **20**

comprises a collar stay **22** having a first surface **22A** and a second surface **22B**. A foam layer **24** is secured to second surface **22B** of collar stay **22** and an adhesive **26** is disposed on at least a portion, and optionally, over the entire side of foam layer **24**. A flexible protective cover layer **28** is removably secured to foam layer **24** by adhesive **26** such that flexible protective cover layer **28** can be removed or peeled off to expose adhesive portions of the invention.

In a preferred embodiment, collar stiffening device **20** is approximately 54 millimeters (mm) long, approximately 8 millimeters (mm) wide, approximately 1.5 millimeters (mm) thick, and has a generally rectangular shape. As shown in Figures 4A – 4C, the ends of collar stiffening device **20** may include a multiplicity of geometrical shapes, such as rounded, pointed, or squared off.

Collar stay **22** of the present invention is preferably made from celluloid, plastic, polymeric material, thin metallic structures, such as very thin aluminum, or any other conventional semi-rigid material known to those of skill in the art or later discovered. Collar stay **22** may be clear, colorless, or may be tinted with pigment to any desired color.

First surface **22A** of collar stay **22** may include printing in the form of advertising on the surface thereof. This printing may include logos, trademarks, or any other form of advertising suitable for display on clothing merchandise. The printing techniques for such advertising may include inking, stamping, embossing, or any other form of creating a visible image upon first surface **22A**.

Foam layer **24** is rigidly secured to second surface **22B** of collar stay **22** and this resilient layer of foam material forms the necessary clearance between collar stay **22** and flexible protective cover layer **28** so that the average user can readily remove flexible protective cover layer **28** to expose adhesive **26**. Foam layer **24** preferably is made from any form of resilient "spongy" foam material known to those of skill in the art, such as closed cellular polyurethane foam or double coated elastomeric tape. In order to provide adequate clearance for effortless removal of flexible protective cover layer **28**, foam layer **24** is preferably the same thickness or thicker than collar stay **22** (e.g., about 0.5 to 1.0 millimeters (mm) thick).

Adhesive **26** is disposed on at least a portion and preferably over the entire side of foam layer **24** and forms the securing mechanism for attachment of collar stiffening device **20** to a shirt collar. Adhesive **26** may be any glue, epoxy resin, cement or other suitable adhesive for removably affixing collar stiffening device **26** to a shirt collar. Preferably, adhesive **26** is water separable or soluble so that no adhesive residue is left on a shirt collar after laundering. Alternatively, adhesive **26** may be non-water soluble for forming a more permanent bond of collar stiffening device **20** to a shirt collar wherein the shirt may be laundered with collar stiffening device **20** still attached to the shirt collar.

"Peel off" flexible protective cover layer **28** is removably secured to foam layer **24** by adhesive **26** and may comprise coated paper, wax paper, thin plastic, polymer film or any other material suitable for removably covering

adhesive. Flexible protective cover layer **28** covers and protects adhesive **26** during product transport and storage and may also be reapplied to foam layer **24** as long as sufficient adhesive **26** remains on foam layer **24** for gripping purposes.

Referring to Figures 5A and 5B, a combination of a shirt provided with a collar stiffening device is also disclosed. The combination includes a shirt **S** comprising a body **32**, arm holes **34**, and a collar, generally designated **40**. Collar **40** has an outer surface **42**, an inner surface **44**, and a front edge **46**. The combination further comprises a collar stiffening device **20** as described hereinabove. It is envisioned that the shirt combination may include short-sleeved shirts and blouses, heavier winter shirts, jackets, and coats, but the invention has been found to be most useful with short-sleeved knit "polo" style shirts. In the combination of the present invention, collar stiffening device **20**, with flexible protective cover layer **28** removed, would be removably secured to inner surface **44** along front edge **46** of collar **40** thereby providing stiffening to collar **40** of shirt **S**.

A method for stiffening the collar of a shirt is also disclosed. The method first comprises the steps of providing a shirt and a collar stiffening device as described hereinabove. The user would then remove the flexible protective cover layer from the adhesive on the foam layer by gripping the protective cover layer and separating the cover layer from the adhesive. The foam layer allows the cover layer to be gripped easily without "digging" underneath by a sharp fingernail or instrument such as a razor blade. The user

would then align the collar stiffening device with the front edge of the collar lower surface and secure the collar stiffening device to the collar lower surface. Once the collar stiffening device is attached to the lower surface of the shirt collar, the device will provide stiffness to the shirt collar as long as it is attached thereto. Upon wearing of the shirt by the user, the collar stiffening device may be removed from the shirt collar and reused if enough adhesive remains on the device to allow the requisite tackiness to be present.

In accordance with the disclosure herein, the collar stiffening device and method of the present invention will prevent collars from wrinkling and curling both during storage prior to wear and during wear. The present invention has been found to be particularly useful for single layer knit fabric "polo" style shirt collars, which are difficult to place and hold in shape. The collar stiffening device is visually undetectable after applying, is disposable, reusable and may be applied with a temporary adhesive leaving no residue on the shirt collar after removal. The novel use of a foam layer between the collar stay and the flexible protective cover layer covering the adhesive has been found to make the removal of the flexible protective cover layer both fast and easy. This foam layer provides the required clearance needed to enable the user to grip the flexible protective cover layer without the need for special tools, such as razor blades, and remove the cover layer rapidly and effortlessly.

It will be understood that various details of the invention may be changed without departing from the scope of the invention. Furthermore, the foregoing description is for the purpose of illustration only, and not for the

purpose of limitation, as the invention is defined by the claims as set forth hereinafter.